

Patent Claims

- 5 1. A multipole, permanent-magnet rotor for a rotating electrical machine, in which permanent magnets which are cuboid in order to produce salient magnet poles and are designed to be flat in the magnetization direction are arranged radially with respect to the rotor axis in slot-like spaces between each two yokes that are fixed on the rotor body,
- 10 characterized in that each yoke is subdivided in the circumferential direction into two half-yokes (2, 3) which each extend over half of one pole pitch, and in that the two mutually adjacent half-yokes (3, 2) of
- 15 two yokes arranged alongside one another are in each case connected by means of end points (6) to form a pole element (7), and each pole element (7) is fixed on its own on the rotor body (1).
- 20 2. The permanent-magnet rotor as claimed in patent claim 1, characterized in that each of the two half-yokes is fitted with permanent magnets (5) on its surface facing a slot-like
- 25 intermediate space (4).
3. The permanent-magnet rotor as claimed in patent claim 2, characterized in that the intermediate spaces (4) which remain
- 30 between the two half-yokes (2, 3) of a pole element (7) are filled with material (9) which can expand under the influence of impregnation resin.
- 35 4. The permanent-magnet rotor as claimed in one of claims 1 to 3, characterized in that the permanent magnets (5) are secured radially by means of double wedges (8).

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5. The permanent-magnet rotor as claimed in one of claims 1 to 4, characterized

5 in that the individual pole elements (7) are subdivided into a number of partial pole elements (73) in the axial direction of the rotor.

6. A method for producing a permanent-magnet rotor as claimed in patent claim 1, in which non-magnetized
10 magnets are magnetized before being arranged on the rotor body, characterized

15 in that the magnets (5) are magnetized once the two half-yokes have been joined together to form a pole element (7).

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Abstract

5 Multipole, permanent-magnet rotor for a rotating
electrical machine, and a method for producing such a
rotor

10 In order to allow a rotating electrical machine, which
uses a permanent-magnet rotor with a flux-concentration
construction for a rated power of more than 100 kW, to
be assembled as easily as possible, two mutually
adjacent half-yokes (3, 2) of two poles as well as
magnets (5) arranged between them in each case form a
pole element (7) which can be fixed on its own on the
rotor body (1).

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Figure 2

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